

REMARKS

Claims 1-8 remain pending after amendment.

Claim Amendments

Claims 1, 5 and 6 are amended to clarify the invention. No new matter is added by this amendment.

Rejection of Claims 5-8 under 35 USC 102(e)

Claims 5-8 stand rejected under 35 USC 102(e) as being anticipated by Seshan U.S. Patent No. 6,686,659. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

Applicants previously noted that the Examiner considered terminals 504 as corresponding to the peripheral electrodes in applicants' claims. However, terminals 504 are floating terminals to adjust circuit characteristics and differ from the peripheral electrodes in the present invention. At page 8 of the outstanding Action, the Examiner takes the position that the peripheral electrodes "are not specifically defined in the claim or in the specification of the instant invention." The Examiner accordingly concludes that a reasonable interpretation of the term "peripheral electrode" would "include the structure taught by Seshan", as "the terminals 502 at the edge of Seshan are located at the peripheral area in the chip 500 than the terminals 502 at the center and

connected to the solder ball 506." The Examiner at page 8 of the Action also takes the position that, in contrast to applicants' prior arguments, "the newly-amended claims 5 and 6 are clearly anticipated by Seshan (see paragraph two of this Office Action for detail)."

In response, claims 5 and 6 are amended in a manner which is believed to clearly distinguish over the cited reference.

In the semiconductor device disclosed by the cited '659 patent, both the peripheral electrodes 502 and the internal electrodes 502 are used simultaneously. By contrast, in the claimed invention, either the peripheral electrodes 502 or the internal electrodes 502 are used in the case of CSP packaging.

The '659 patent fails to disclose or suggest other limitations defined by the "wherein" clauses in claim 1. The IC disclosed in the '659 patent, as shown in Figure 6, comprises a polyimide layer 320 and a silicon nitride layer 322 between a terminal 362 and a bump 315. However, peripheral electrodes in the claimed invention reside in openings formed in the insulating layer (see amended claims 1, 5 and 6 in this regard).

The invention of claims 1 and 3-8 (as amended) is clearly not anticipated by the cited reference, and the rejection should be withdrawn.

Rejection of Claim 2 under 35 USC 103(a)

Claim 2 stands rejected under 35 USC 103(a) as being unpatentable over Seshan in view of Arnold et al U.S. Patent No. 4,521,449. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

The Seshan reference fails to disclose or suggest the claimed invention for the reasons noted above. The Arnold et al patent does not cure such deficiencies.

Again, while it is the Examiner's view that pads 24 of Figure 2 of the '449 patent correspond to the internal electrodes, while pads 42 correspond to the peripheral electrodes. Although the pads 24 are smaller than pads 42, there is no basis for the conclusion that these pads should be considered to correspond to the internal and peripheral electrodes irrespective of the respective sizes.

The rejection is thus without basis and should be withdrawn.

Rejection of Claims 1, 3 and 4 under 35 USC 103(a)

Claims 1, 3 and 4 stand rejected under 35 USC 103(a) as being unpatentable over Seshan in view of Saito '830. This rejection is respectfully traversed to the extent deemed to apply to the claims as amended.

In support of the rejection, the Examiner takes the position that Seshan teaches the limitations of claim 1 with the exception of

wire bonding, with Saito being relied upon to teach wire bonding at pages 6 and 7 of the Action.

In response, claim 1 is amended to define the claimed invention in a manner which is believed to define over the cited prior art.

More specifically, in the semiconductor device disclosed by the cited '659 patent, both the peripheral electrodes 502 and the internal electrodes 502 are used simultaneously. By contrast, in the claimed invention, either the peripheral electrodes 502 or the internal electrodes 502 are used in the case of CSP packaging. The combined teachings of the references do not result in the claimed invention.

In view of the above, the rejection is believed to be without basis, and should be withdrawn.

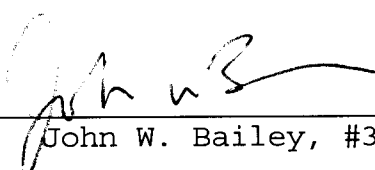
In view of the above, the application is believed to be in condition for allowance.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP


By



John W. Bailey, #32,881

P.O. Box 747

Falls Church, VA 22040-0747


JWB/JWH/ej
(703) 205-8000